

Marble Thinking

- Develops reasoning; information processing; enquiry
- Use as a lesson starter; plenary; main activity or topic/theme review

How

Imagine lots of marbles packed together on a tray: When one marble bumps into another, the second marble moves. If this one hits a third, then that too will move a little and so into the others. The first marble ends up affecting many more, even though it never touches them directly. Its energy passes through the group and represents how a theme can travel through different objects or ideas. Here are ➡ **instructions** for constructing a Marble Thinking challenge for your learners:

- ➡ **Choose a learning objective**
- ➡ **Brainstorm several objects/ideas related to the objective**
- ➡ **Place each object/idea in a different marble on a 'Marble Diagram' (below)**
- ➡ **Challenge your learners to find the longest unbroken line through the group of marbles. Start and finish anywhere but the line must have a theme and can only pass through marbles sharing that theme.**
- ➡ **See below for an example**

Extend

- **Create clusters, intersecting lines and 3D arrangements of marbles**
- **Miss out marbles - find theme AND missing marbles**

Simplify

- Find connections between two marbles; Start with theme and then create marbles
- Relate marbles and themes to everyday experiences and familiar objects

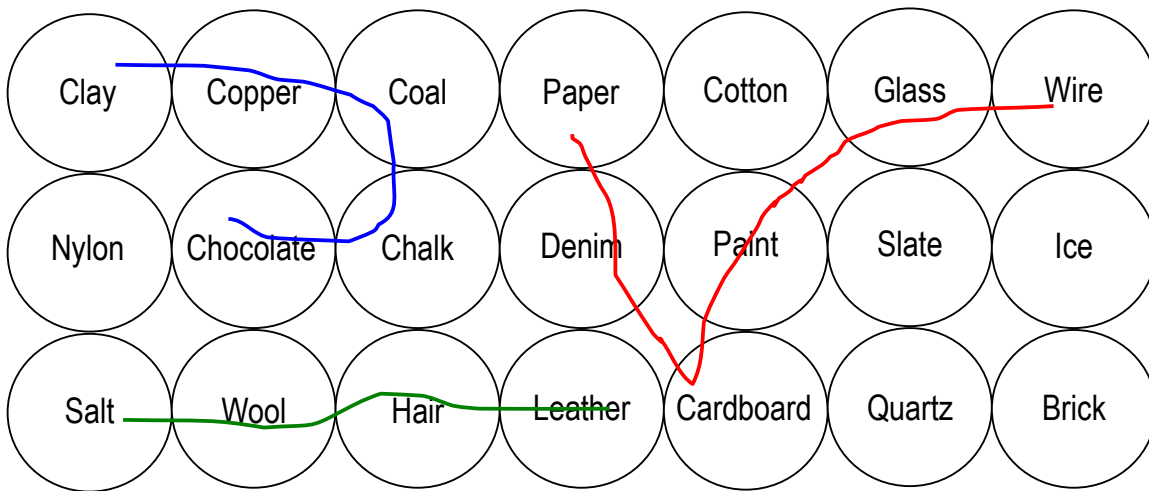
Apply

- **Maths** – Numbers; Shapes; Units of measure; Imaginary numbers
- **Language** – Key Vocabulary; mis-spelled words; ways of communicating
- **Science** – Forces in nature; Plants & Animals; Processes; Chemical elements
- **Geography** – Reasons to move; Types of settlement; Types of transport
- **History** – Artefacts; Motivations to invade; Key dates; Weapons; Disasters
- **Music** – Instruments; Uses of music; Popular artists; Types of sound
- **Art** – Uses of art; Public art; Colours; Galleries; Tools and Media
- **PE** – Sports; Dancers; Sports Equipment; Parts of body; Golf clubs
- **PHSE/RE** – Emotions; Beliefs; Values; Reasons for conflict; Special books
- **DT** – Tools; Materials; Ways of joining; Stages of design process
- **AfL** – Single word comments; Self-reflection questions; Learning targets
- **MfL** – Key Vocabulary; Situations; Common spoken/written errors;
- **Parents** – Use to enrich homework – spellings etc.; Use to think through problems

- **Business** – Potential/existing customers; Competitors; Products; Candidates for new post; Creditors; Debtors; Potential words for vision statement; Methods for recycling; Ways in which ethical practices are developed; Organisational strengths

Notes & Ideas

Example: (Learning Focus – Investigate the properties of solids)



— Natural (4 marbles)

— Begins with C (5 marbles)

— Processed (6 marbles)

- Choose a theme
- Join up adjacent marbles sharing that theme
- Make the longest unbroken line
- Start anywhere
- Lines can cross themselves and each other
- Lines can't come back on themselves

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